

Sorensen Company

217-379-2171

FAX: 217-379-2000

515 Railroad Ave.
Paxton, IL 60957

Sorensen

ADDENDUM A

To

Instruction Manual

For

**DCS 1KW SERIES POWER
SUPPLIES**

DOCUMENT NUMBER 1063986

Document Number 1068486



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SECTION 5

SCHEMATICS AND PARTS LISTS

5.1 GENERAL

This section provides schematic drawings and parts lists for the following assemblies:

- A1 - Front panel assembly
- A2 - Power assembly
- - Chassis and Cover

5.2 PARTS ORDERING

Parts may be ordered from the factory by the SORENSEN part numbers listed in the following sections. Order parts from:

SORENSEN COMPANY
615 N. Railroad Avenue
Paxton, IL.
60957
TEL: (217) 379-2171
FAX: (217) 379-2000

When ordering parts please include the model number and serial number of the unit with your order.

DCS	8-125	80-13
	20-50	150-7
	33-33	300-3.5
	40-25	600-1.7
	60-18	

5.3 A1 FRONT PANEL ASSEMBLY REPLACEMENT PARTS

Circuit Designation	Description	Sorensen Part number
C1,9	10uF 25V 20% 2.5mm Tantalum capacitor	CJ-1000-25
C2,12	100pF 100V Z5F 10% 5.0mm Ceramic capacitor	1064919-2
C3,4,5,6,7,10,11,13 14,15,17,18-22	0.33uF 50V Z5U -20%/+80% 5.0mm Ceramic capacitor	CC-334F-09
C8,16	0.1uF 100V MF 10% 10mm RAD	DC-104J-16
CB1	250Vac 20A Circuit Breaker	SB-1205-AC
CR1,7,8	T-1 3/4 3.0mcd Red round LED	DS-5103-R2
CR2,6	T-1 3/4 3.0mcd Green round LED	DS-5173-G2
CR3,5	Red Rectangular LED 2.5x5mm	DS-5556-R6
CR4	Green Rectangular LED 2.5x5mm	DS-0394-G6
DS1,2,3,4,5,6,7,8	Orange 7 segment display (DS4 and DS8 not installed on some models)	DS-0161-G7
P1	20 Pin MTA Pin header 0.1" Spacing	MC-2003-MC
P2	9 Pin MTA Pin header 0.1" Spacing	MC-0903-MC
R1,3,7,9	100k ohm 1% 1/4W MF	586055-170
R2,5,6,8,11	365 ohm 1% 1/4W MF Decimal point resistors Not all installed see Figure 5-1 for list	586055-53
R4	47.5k ohm 1% 1/4W MF (8,20,33,40,60,80V Models only)	586055-209
R4	475k 1% 1/4W MF (150,300,600V Models only)	586055-216
R10	475k 1% 1/4W MF	586055-216
R13	100 ohm 1% 1/4W MF (8,20,40,60,80,150,600V Models only)	586055-26
R13	1k^ 1% 1/4W MF (300V Model only)	586055-74
R13A	Emty position	Empty Resistor Position
R14	2.37k ohm 1/4W 1% MF (300V Model only)	586055-92
R14	6.19k ohm 1/4W 1% MF (20,40,60,80,150,600V Models only)	586055-112
R14	34.8k ohm 1/4W 1% MF (8V Model only)	586055-148
R15,18	500 ohm 25 Turn 10% Cermet Pot Type Z	RC-5000-Z8
R16	750 ohm 1/4W 1% MF	586055-68
R17	4.99k ohm 1% 1/4W MF	586055-187
R19,20	5k 10T 2W 5% Panel Mount 1/4" Shaft Potentiometer	RP-5001-0

A1 FRONT PANEL ASSEMBLY REPLACEMENT PARTS (CON'T)

Circuit Designation	Part number	Description	Sorensen
R21/R21A		5k 20 Turn 10% Cermet Pot Type Y Only one installed	RC-5001-29
R22		200 ohm 1% 1/4W MF	586055-300
U1,2		3.5 Digit A/D LED driver	UD-7107-C
-		A1 PCB Rev C	1068197-XXX
-		6-32 x 3/16" Nylon Allen Socket head Screw for A1 PCB installation	7-7105
-		#4 Angle bracket For mounting front panel to chassis and cover	MB-0612-04
-		Front panel sheet metal 1.71" x 19"	SM-10FP
-		Handle	MH-0612-04
-		#8-32 x 1/2" flat head screw for handle installation	6-2020-35
-		Front panel control knobs	1059791-62
-		0.25"x 0.2"insulating standoff for mounting Leds CR1-8	MR-6251-03
-		Molex IC Pin sockets For mounting U1 and U2	MC-0001-IC
-		40 PIN 0.1" x 0.6" IC socket For mounting DS1,2,3,5,6,7,8	MC-0040-IC
-		16A DPST Rocker switch	SW-2126-RP2
-		Front panel label DCS 8-125	LA-1008-SF
-		Front panel label DCS 20-50	LA-1020-SF
-		Front panel label DCS 33-33	LA-1033-SF
-		Front panel label DCS 40-25	LA-1040-SF
-		Front panel label DCS 60-18	LA-1060-SF
-		Front panel label DCS 80-13	LA-1080-SF
-		Front panel label DCS 150-7	LA-1150-SF
-		Front panel label DCS 300-3.5	LA-1300-SF
-		Front panel label DCS 600-1.7	LA-1600-SF

5.4 A2 POWER ASSEMBLY REPLACEMENT PARTS

A2 Common Parts

Circuit Designation	Description	Sorensen Part number
C1,4,70,73	1uF 250Vac 10% 27.5mm Metal film X capacitor	CD-105P-36
C2,3,5,6	10nF 250Vac 10% 15mm Metal film Y capacitor	CD-103L-36
C7,11	470uF 35V 20% 5mm 13 x 25mm Electrolytic capacitor	CL-471F-35
C8,16,17,19,20,23-26,29-33 35-39,41,56-59,65, 67,68,74,76,77, 18A,20A,31A,56A	0.33uF 50V Z5U -20%/+80% 5mm Ceramic capacitor	CC-334F-09
C9	2200uF 16V 20% 5mm 13 x 25mm Electrolytic capacitor	CL-222H-16
C10	1000uF 25V 20% 5mm 13 x 25mm Electrolytic capacitor	CL-102H-25
C12,13,14,15,66	10uF 25V 2.5mm Electrolytic capacitor	CL-100C-50
C21,22,27,62	10nF 100V X7R 10% 5mm Ceramic capacitor	CB-103F-16
C28,30A,34,40,42	100pF 100V X7R 10% 5mm Ceramic capacitor	CB-101F-16
C43,44	10uF 25V 20% 2.5mm Tantalum capacitor	CJ-100D-25
C46	10nF 1kV Z5U -20%/+80% 10mm Ceramic capacitor	CC-103J-69
C47	10uF 63V 2.5mm Electrolytic capacitor	CL-100D-63
C60,69	330pF 1KV Z5F 10% 6.5mm Ceramic capacitor	CB-331G-66
C61	220pF 100V X7R 10% 5mm Ceramic capacitor	CB-221F-16
C63	1nF 100V X7R 10% 5mm Ceramic capacitor	CB-102F-16
C71,C72	1800uF 200Vdc 1.375" x 5.125" 12.5mm Computer grade capacitor	CL-182K-80
-	LUG #10 Stud, 10-12AWG for mounting C71,72	4-226
-	Cable tie 0.14" X 11" for mounting C71,72	MI-1411-CT
C78,79	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C18	1uF, 50Vdc 10%	12C-0012-000

A2 POWER ASSEMBLY REPLACEMENT PARTS (CON'T)

Circuit Designation	Description	Sorensen Part number
CR1,17	1N825A 6.2V 400mW Zener diode	CR-0825-A
CR2-8,10-13,15,16, 18,19,21,24-30,32-34, 38,39,3A,17A,25A	1N4148 75V 300mA Diode	CR-4148
CR14,36,37,40,41,43	1N4004 400V 1A Diode	322-7236P6
CR20	1N5242B 12V 5% 0.5W Zener diode	CR-5242-B
CR22,23	1N753A 6.2V Zener diode	CR-0753-A
CR23A	1N4731A 4.3V 1W Zener diode	CR-4731-A
CR31	1N5355B 18V 5W Zener diode	CR-5355-B
CR35	800V 35A Bridge rectifier Chassis mounted	CR-B358
CR42	200V 1A 4 pin DIP Bridge rectifier	CR-B012
CR44	1N754 6.8V 500mW Zener diode	CR-0754
DS1	Neon bulb 65Vac	DS-65NE-29
F1	20A 250V 3AG fuse (slow)	F2-2000-S
F2	1A 250V 3AG fuse (fast)	F2-0100-F
F3	7A 250V 5AG fuse (fast)	F2-0700-F5
-	3AG Fuse clip BeCu only for F1,F2	MC-3101-FC
-	5AG Fuse clip for F3	MC-5011-FC
J1	20 Pin MTA Connector (Female) 0.1" with 7.5" Ribbon cable	WA-2022-15
J2	12 Pin 0.1" MTA male header	MC-1203-MC
J3	25 Pin female PCB mount DSUB	MC-2501-D
K1	T90 Relay 250V 30A SPST,12V Coil	K1-012D-30AP
-	Relay dust cover for K1	MI-0T90-DC
L1,L2	1mH 20A Common mode inductor	1068233-1
L4	ETD34,N27 Ferrite core(2 Halves) Gapped in 8 and 20V models	FD-2400-34
L5	Sense line common mode inductor	1068234-1
P1	4 Pin Mate-N-Lock PCB header	MC-3502-ML
P2	2 Pin Mate-N-Lock PCB header	MC-0209-ML
Q1,2,3,4	PN-2907A 60V 500mA 400mW TO92	11Q0001-000
Q2A	2N7000 NM 60V 500mA TO226AA	QJ-7000
Q5	PN-2222A 40V 500mA 500mW TO92	QM-2222-A
Q6-12	MTD5N05-1 50V 5A 0.4 Ohm DPAK	QF-5N05-1
Q13,14,15,16	450V 13A 0.55 Ohm NFET TO-3	QF-0451
-	Insulator for Q13, 14, 15, 16	1064605-2
-	Spacer for Q13, 14, 15, 16	MR-6251-03

A2 POWER ASSEMBLY REPLACEMENT PARTS (CON'T)

Circuit Designation	Description	Sorensen Part number
-	TO3 Insulating washers for mounting Q13,14,15,16	MR-625I-03
-	Heatsink for Q13-16	HS-1000-A1
R1,3,49,51,56,75,77,96	4.99k ohm 1% 1/4W MF	586055-187
R2,11-15,17,40,45,82,123	750 ohm 1% 1/4W MF	586055-68
R4,6,19,21,58,72,74,76,79	1k ohm 1% 1/4W MF	586055-74
R5,20,25,28,80	10k ohm 1% 1/4W MF	586055-122
R7,46,48,52	10k ohm 20T 10% Cermet trimpot	RC-1002-29
R7A	20k 1% 1/4W MF	586055-194
R8,8A,23,24,60,62, 65,69,81,81A,103,105	10k ohm 1% 1/4W MF	586055-122
R9,10,55	100k ohm 1% 1/4W MF	586055-170
R16	121 ohm 1% 1/4W MF	586055-30
R18,54,78,119,120	1M ohm 1% 1/4W MF	586055-232
R26	2k ohm 1% 1/4W MF	586055-301
R29,59	49.9k ohm 1% 1/4W MF	586055-193
R30	33.2K ohm 1% 1/4W	586055-147
R31,41,43,84	3.01k ohm 1% 1/4W MF	586055-97
R32,39,61,97,102	1k ohm 1% 1/4W MF	586055-74
R33	20M ohm 1% 1/4W MF	586055-302
R34	470k 1% 1/4W MF	586055-193
R35	200k ohm 1% 1/4W MF	586055-234
R36,50	100 ohm 1% 1/4W MF	586055-26
R37	1k ohm 5% 1/2W CF	1063040-74
R38	5.1k ohm 5% 5W MF	586054-77
R42	3.24k ohm 1% 1/4W MF	586055-98
R44,64	10 ohm 1% 1/4W MF	586055-226
R47	500 ohm 20T 10% Cermet trimpot Y Type	RC-5000-Y9
R53	5k ohm 20T 10% Cermet trimpot Y Type	RC-5001-Y9
R57	11k ohm 1% 1/4W MF	586055-124
R129	133k ohm 1% 1/4W	586055-176
R63,66,67	20k ohm 1% 1/4W MF	586055-194
R78	10M ohm 1% 1/4W MF	586055-232
R83,124	243 ohm 1% 1/4W MF	586055-200
R87,88	100 ohm 5W WW	586054-37
R94	47.5K 1% 1/4W	586055-209
R98	10 ohm 1/2W MF	1063040-226
R99,101	47 ohm 1% 1/4W MF	586055-271
R104,106	100 ohm 1/2W MF	1063040-26
R111-113	470 ohm 5W WW Low inductance	1068259-7
R114,115	10k ohm 5W WW	586054-61
R116	39 ohm 5W WW	586054-32
R117, R118	300k ohm 1% 1/4W MF	586055-215

A2 POWER ASSEMBLY REPLACEMENT PARTS (CON'T)

Circuit Designation	Description	Sorensen Part number
RT1	Temp. Sensor 595mV @ 25degC TO-92	QM-S105-MT
SW1	8PST DIP Switch	SW-8156-RU3
T2	Bridge drive transformer 1:1	1068235-1
T3	Current sense transformer	1068236-1
T4	Auxiliary transformer 110/220 16CT 12VA	1068237-1
TB1	AC input barrier strip	MC-026R-BS
U1	4N37 Opto-coupler 6 pin DIP	UP-4N37
U2	LF353 Dual op amp 8 pin DIP	UA-0353-N
U3	LM358 Dual op amp 8 pin DIP	UA-0358-N
U4,8	LF347N Quad op amp 14 pin DIP	UA-0347-N
U5	LF351 Op amp 8 pin DIP	UA-0351-N
U6	UC3846N PWM 16 pin DIP	UR-3846-N
U7	4066B Quad analog gate 14 pin DIP	UC-4066-BN
U9	LM337 3 Terminal regulator TO-220	UR-0337-T
U10,11	LM2940CT Low saturation 3 Terminal regulator TO-220	UR-2940-CT
-	TO220 Heatsink for U10,11	HS-6021-PB
-	8 pin DIL IC socket for U2,U3,U5	MC-0008-IC
-	14 pin DIL IC socket for U4,U7,U8	MC-0014-IC
-	16 pin DIL IC socket for U6	MC-0016-IC
-	A2 PCB Rev D	PC-1002
-	Air dam (10 mil Nomex)	1066955-1

Model DCS 8-125 Differential Parts

Circuit Designation	Description	Sorensen Part number
A2 Power Assembly		
C27,54	10nF 100V X7R 10% 5mm Ceramic capacitor	CB-103F-16
C51,52,53	22000uF 10V 10mm 30 x 35mm Snap in electrolytic capacitor	CE-223J-16
C55	22nF 50V X7R 10% 5mm Ceramic capacitor	CB-223F-16
C64	330pF 100V X7R 10% 5mm Ceramic capacitor	CB-331F-16
C301	10nF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CR-3004-PT
C302	1nF 1kV Z5U -20%/+80% 6.5mm Ceramic disk capacitor	CR-3004-PT
C305, C306	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
CR301, CR302	MBR 30045 300A 45V Dual Schoutky rectifier	CR-3004-PT
Q17	IRF542	1066873-1
R22	4.64k ohm 1% 1/4W MF	586055-106
R27	475 ohm 1% 1/4W MF	586055-245
R68	90.9k ohm 1% 1/4W MF	586055-168
R70	47.5k ohm 1% 1/4W MF	586055-209
R71	44.2k ohm 1% 1/4W MF	586055-153
R72	1k ohm 1% 1/4W MF	R-1001-41
R85	100 ohm 1% 1/4W MF	586055-26
R89	13.3k ohm 1% 1/4W MF	586055-128
R90	20 ohm 1% 1/4W WW	586055-76
R91	#12 Manganin wire	WR-0012-MN
R93	10 ohm 5% 5W WW	586054-13
R95	3.32 ohm 1% 1/4W MF	586055-309
R100	9.53k ohm 1% 1/4W MF	586055-121
R107-R110	10 ohm 1% 1/4W MF	586055-226
R86, R107A-R110A	JUMPER 0.5" #24 Bus wire	21-024
R301,303	1 ohm 5% 5W 100PPM/C Non-inductive	1068259-3
-	Negative assembly bus	1066740-02
-	Positive assembly bus	1066741-03
-	Differential heatsink for 8-20V models	1068058-1
-	0.25" Solder lug for mounting C301,C302,C306,R301,R302	1312-SL
-	#6 Solder lug for mounting C306	MC-6213-SL
-	#6-32 Insulated solder turret for mounting snubber parts	MR-625C-06
-	1/4-20 x 3/8" Brass screw for mounting CR301/CR302	6-2001-43
-	1/4-20 x 1/2" Brass screw for mounting CR301/CR302	6-2001-44
-	Transformer/Inductor Assembly	1068196-1

Model DCS 8-125 (Con't)**Circuit****Designation****Description****Sorensen
Part number****Output bus bar PCB parts**

-	Output bus bar PCB Rev C	PC-10RF
C401,405	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C403	470uF 16V 20% 5mm Electrolytic capacitor	CL-471F-16
C406	2.2uF 63V 5% 15mm Metallized polyester capacitor	CD-225L-D5

Model DCS 20-50 Differential Parts

Circuit Designation	Description	Sorensen Part number
A1 Power Assembly		
C22, C27, C62	10nF 100V X7R 10% 3mm Ceramic capacitor	CB-103F-16
C51,52,53	10,000uF 25V 10mm 35 x 30mm Snap in electrolytic capacitor	CE-103J-25
C55,64	330pF 100V X7R 10% 5mm Ceramic capacitor	CB-331F-16
C305,306	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C301	1nF 1kV Z5U -20%/+80% 6.5mm Ceramic disk capacitor	235-7
C302	4.7nF 400V 10% 10mm Metallized polyester film	CD-472J-46
CR301/CR302	100A 150V Dual UFR	CR-U100-PT
Q17	IRF542	1066893-1
R22	21k ohm 1% 1/4W MF	1063041-257
R27	475 ohm 1% 1/4W MF	586055-245
R32,39,58,61,72,74,76,79,97	1k ohm 1% 1/4W MF	586055-74
R68	90.9k ohm 1% 1/4W MF	586055-168
R70	100k ohm 1% 1/4W MF	586055-170
R71	44.2k ohm 1% 1/4W MF	586055-153
R73	27.4K 1% 1/4W MF	586055-143
R85	73.2k ohm 1% 1/4W MF	586055-314
R89	47.5k ohm 1% 1/4W MF	586055-209
R90	100 ohm 5% 5W WW	586054-37
R91	#12 Manganin wire	21-028
R93	2.20 ohm 5% 5W WW	586054-17
R95	3.32 ohm 1% 1/4W MF	586055-309
R100	9.53k ohm 1% 1/4W MF	586055-121
R44, 64,R107-R110	10 ohm 1% 1/4W MF	586055-226
R86,R107A-R110A	JUMPER 0.5" #20 Bus wire	21-024
R301,303,304	33^ 5% 3W MF	1068259-10
-	Output Assembly bus bar (negative)	1066740-12
-	Output Assembly bus bar (positive)	1066741-03
-	Differential heatsink for 8-300V models	1068058-1
-	0.25" Solder lug for mounting C301,C303,C305,C306,R301,R302	MC-1312-SL
-	#6 Solder lug for mounting C305 and C306	4-161
-	#6-32 Insulated solder turret for mounting snubber parts	MR-625C-06
-	1/4-20 X 3/8" Brass screw for mounting CR301/CR302	6-2001-43
-	1/4-20 x 1/2" Brass screw for mounting CR301/CR302	6-2001-44
-	Transformer/Inductor Assembly	1068202-1

Model DCS 20-50 Differential Parts (Con't)

Circuit Designation	Description	Sorensen Part number
Output bus bar PCB parts		
-	Output bus bar PCB Rev C	PC-10RF
C401,405	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C403	100uF 63V 20% 5mm Electrolytic capacitor	CL-101F-63
C406	2.2uF 63V 5% 15mm Metallized polyester capacitor	CD-225L-D5
C402,404	10nF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-103J-69

Model DCS 33-33 Differential Parts

Circuit Designation	Description	Sorensen Part number
A1 Power Assembly		
C27	.010uF 100V X7R 10% 5mm Ceramic capacitor	CB-103F-16
C45	100pF 100V Z5F 10% 5mm Ceramic capacitor	CB-101F-16
C51,52,53	3.300Ku 63V 30 x 35mm Snap in electrolytic capacitor	CE-332J-63
C54	.0047uF 100V X7R 10% 5mm Ceramic capacitor	CB-472F-16
C55,64	330pF 100V X7R 10% 5mm Ceramic capacitor	CB-331F-16
-		
Q17	IRF542	1066873-1
R22	12.7k ohm 1% 1/4W MF	586055-127
R27	475 ohm 1% 1/4W MF	586055-245
R68	90.9k ohm 1% 1/4W MF	586055-168
R70	100k ohm 1% 1/4W MF	586055-170
R71,73	27.42k ohm 1% 1/4W MF	586055-143
R72	1k ohm 1% 1/4W MF	586055-74
R85,89	80.6k ohm 1% 1/4W MF	586055-318
R90	390 ohm 5% 5W WW	586054-44
R91	#12 Manganin wire	21-028
R93	3.30 ohm 5% 5W WW	586054-19
R95	3.32 ohm 1% 1/4W MF	586055-309
R100	9.53k ohm 1% 1/4W MF	586055-121
R107-R110	10 ohm 1% 1/4W MF	586055-226
R86,R107A-R110A	JUMPER 0.5" #24 Bus wire	21-004
-	Differential heatsink for 33-300V models	1068058-2
-	Output bus bar Assembly (negative)	1066740-22
-	Output bus bar Assembly (positive)	1066741-02
	Transformer/Inductor Assembly	1068206-1
Rectifier PCB parts		
-	Rectifier/snubber PCB Rev D	PC-100R
-	9 mil Thermally conductive insulating sheet for rectifier PCB mounting	1064605-1
C301	.0010uF 1kV X7R 10% 6.5mm Ceramic capacitor	CB-102G-66
C303,304	330pF 1kV Z5F 10% 6.5mm Ceramic capacitor	CB-331G-66
C305,306	.0500u 1KV	CC-503J-69
CR301,302	500V 30A Dual UFR	CR-3050-UD
R301-R306	33 ohm 5% 3W MF	1068259-10

Model 33-33 Differential Parts (Con't)

Output bus bar PCB parts

-	Output bus bar PCB Rev D	PC-10RF
C401,405	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C403	100uF 63V 20% 5mm Electrolytic capacitor	CL-101F-63
C406	1uF 250V 10% 15mm Metal film capacitor	CD-105L-26

Model DCS 40-25 Differential Parts

Circuit Designation	Description	Sorensen Part number
A1 Power Assembly		
C27	10nF 100V X7R 10% 5mm Ceramic capacitor	CB-103F-16
C45	470pF 100V X7R 10% 5mm Ceramic capacitor	CB-471F-16
C51,52,53	3.30uF 63V 30 x 35mm Snap in electrolytic capacitor	CE-332J-63
C54	.0047nF 50V X7R 10% 5mm Ceramic capacitor	CB-472F-06
C55	330pF 100V X7R 10% 5mm	CB-331F-16
C64	Ceramic capacitor	
C64	.0010u 100V	CB-102F-16
Q17	IRF542	1066873-1
R22	10k ohm 1% 1/4 MF	586055-122
R27	475 ohm 1% 1/4W MF	586055-245
R68	90.9k ohm 1% 1/4W MF	586055-168
R70	200k ohm 1% 1/4W MF	586055-234
R71,73	44.2k ohm 1% 1/4W MF	586055-153
R72	1k ohm 1% 1/4W MF	R-1001-41
R85	84.5k ohm 1% 1/4W MF	586055-319
R86	JUMPER 0.5" #24 Bus wire	21-024
R89	100k ohm 1% 1/4W MF	586055-170
R90	390 ohm 5% 5W WW	586054-44
R91	#12 Manganin wire	21-028
R93	3.9 ohm 5% 5W WW	586054-20
R100	9.53k ohm 1% 1/4W MF	586055-121
R107-R110	10 ohm 1% 1/4W MF	586055-226
R107A-R110A	JUMPER 0.5" #24 Bus wire	21-024
-	Differential heatsink for 33-300V models	1068058-2
-	Output bus bar (negative)	1066740-01
-	Output bus bar (positive)	1066741-01
	Transformer/Inductor Assembly	1068210-1
Rectifier PCB parts		
-	Rectifier/snubber PCB Rev D	PC-100R
-	9 mil Thermally conductive insulating sheet for rectifier PCB mounting	1064605-1
C301	.0010uF 1kV X7R 10% 6.5mm Ceramic capacitor	CB-102G-66
CR301,302	500V 30A Dual UFR	CR-3050-UD
R301-R304	68 ohm 5% 3W MF	1068259-11

Model DCS 40-25 (Con't)

Circuit Designation	Description	Sorensen Part number
Output bus bar PCB parts		
-	Output bus bar PCB Rev C	PC-10RF
C401,405	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C403	100uF 63V 20% 5mm Electrolytic capacitor	CL-101F-63
C406	1uF 250V 10% 15mm Metal film capacitor	CD-105L-26

Model DCS 60-18 Differential Parts

Circuit Designation	Description	Sorensen Part number
A2 Power Assembly		
C27	10nF 100V X7R 10% 5mm Ceramic capacitor	CB-103F-16
C45	1nF 100V X7R 10% 5mm Ceramic capacitor	CB-102F-16
C51,52,53	3300uF 63V 30 x 35mm Snap in electrolytic capacitor	CE-332J-63
C54	4.7nF 50V X7R 10% 5mm Ceramic capacitor	CB-472F-06
C55,64	330pF 100V X7R 10% 5mm Ceramic capacitor	CB-331F-16
Q17	IRF641	1066874-1
R22	6.49k ohm 1% 1/4W MF	586055-113
R27	475 ohm 1% 1/4W MF	586055-245
R68	91k ohm 1% 1/4W MF	586055-168
R70	100k ohm 1% 1/4W MF	586055-170
R71,73	44.2k ohm 1% 1/4W MF	586055-153
R72	1k ohm 1% 1/4W MF	R-1001-41
R85	84.5k ohm 1% 1/4W MF	586055-320
R86,107A-110A	JUMPER 0.5" #24 Bus wire	WJ-0024
R89	150k ohm 1% 1/4W MF	586055-236
R90	910 ohm 5% 5W WW	586054-78
R91	#12 Manganin wire	WR-0012-MN
R93	2 ohm 5% 5W WW	586054-22
R95	3.3 ohm 5% 1/4W MF	R-3R32-41
R100	9.53k ohm 1% 1/4W MF	586055-121
R107-R110	10 ohm 1% 1/4W MF	586055-226
-	Differential heatsink for 8-300V models	1068058-2
-	Output bus bar (negative)	1066740-01
-	Output bus bar (positive)	1066741-01
	Transformer/Inductor Assembly	1068214-1
Rectifier PCB parts		
-	Rectifier/snubber PCB Rev D	PC-100R
-	9 mil Thermally conductive insulating sheet for rectifier PCB mounting	1064605-1
	Insul for CR301-CR302	
C301,303,304	330pF 1KV Z5F 10% 6.5mm Ceramic capacitor	CB-331G-66
C305,306	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disc capacitor	CC-503J-69
CR301,302	500V 30A Dual UFR	CR-3050-UD
R301-R308	330 ohm 5% 3W MF	1068259-12

Model DCS 60-18 (Con't)

Circuit Designation	Description	Sorensen Part number
Output bus bar PCB parts		
-	Output bus bar PCB Rev C	PC-10RF
C401,405	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C403	100uF 63V 20% 5mm Electrolytic capacitor	CL-101F-63
C406	1uF 250V 10% 15mm Metal film capacitor	CD-105L-26

Model DCS 80-13 Differential Parts

Circuit Designation	Description	Sorensen Part number
A2 Power Assembly		
C27	10nF 50V X7R 10% 5mm Ceramic capacitor	CB-103F-16
C45	.00101u 100V X7R 10% 5mm Ceramic capacitor	CB-102F-16
C51,52,53	1000uF 100V 30x35mm 10mm Snap in electrolytic capacitor	CE-102J-76
C54	.0047nF 50V X7R 10% 5mm Ceramic capacitor	CB-472F-06
C55,64	330pF 100V X7R 10% 5mm Ceramic capacitor	CB-331F-16
Q17	IRF641	1066874-1
R22	6.49k ohm 1% 1/4W MF	586055-113
R27	475 ohm 1% 1/4W MF	586055-245
R68	91k ohm 1% 1/4W MF	586055-168
R70	100k ohm 1% 1/4W MF	586055-170
R71,73	44.2k ohm 1% 1/4W MF	586055-153
R72	1k ohm 1% 1/4W MF	R-1001-41
R85	84.5k ohm 1% 1/4W MF	586055-320
R86,107A-110A	JUMPER 0.5" #24 Bus wire	WJ-0024
R89	150k ohm 1% 1/4W MF	586055-236
R90	910k ohm 5% 5W WW	586054-78
R91	#12 Manganin wire	21-028
R93	8.20 ohm 5% 5W WW	586054-24
R95	3.32 ohm 1% 1/4W MF	R-3R32-41
R100	9.53k ohm 1% 1/W MF	586055-121
R107-R110	10 ohm 1% 1/4W MF	586055-226
-	Differential heatsink for 8-300V models	1068058-2
-	Output bus bar (negative)	1066740-01
-	Output bus bar (positive)	1066741-01
	Transformer/Inductor Assembly	1068218-1
Rectifier PCB parts		
-	Rectifier/snubber PCB Rev D	PC-100R
-	9 mil Thermally conductive insulating sheet for rectifier PCB mounting Insul for CR301-CR302	1064605-1
C301,303,304	220pF 1kV 10% Z5F 6.5mm Ceramic capacitor	CB-221G-66
C305,C306	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disc capacitor	CC-503J-69
CR301,302	600V 30A Dual UFR	CR-3060-UR
R301-R305,305A,306,306A	330 ohm 5% 3W MF	1068259-12

Model DCS 80-13 (Con't)

Circuit Designation	Description	Sorensen Part number
Output bus bar PCB parts		
-	Output bus bar PCB Rev C	PC-10RF
C401,405	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C403	47uF 100V 20% 5mm Electrolytic capacitor	CL-470F-76
C406	1uF 250V 10% 15mm Metal film capacitor	CD-105L-26

Model DCS 150-7 Differential Parts

Circuit Designation	Description	Sorensen Part number
A2 Power Assembly		
C27	.010uF 50V X7R 10% 5mm Ceramic capacitor	CB-103F-06
C45	1nF 1kV X7R 10% 6.5mm Ceramic disk capacitor	CB-102G-66
C48,49,50,87	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disc capacitor	CC-503J-69
C50A	1uF 250V 10% 15mm Metal film capacitor	CD-105L-26
C52,53	150uF 200V 25x25mm 10mm Snap in electrolytic capacitor	CE-151J-80
C54	.0047uF 50V X7R 10% 5mm Ceramic capacitor	CB-472F-06
C55	.0022uF 50V X7R 10% 5mm Ceramic capacitor	CB-222F-06
C64	.0010uF 50V X7R 10% 5mm Ceramic capacitor	CB-102F-06
C64A	0.1uF 50V Z5U -20%/+80% 5mm Ceramic capacitor	CC-104F-09
CR49,50,51,52	1N4148 Diode	CR-4148
Q17	IRF741	1066875-1
R22	1.96k ohm 1% 1/4W MF	586055-88
R27	47 ohm 1% 1/4W MF	586055-245
R68	16.2k ohm 1% 1/4W MF	586055-132
R70	100k ohm 1% 1/4W MF	586055-170
R71,73	8.66k ohm 1% 1/4W MF	586055-119
R72	2.05k ohm 1% 1/4W MF	586055-89
R85	93.1k ohm 1% 1/2W MF	1063040-264
R86	EMPTY POSITION	
R89	348k ohm 1% 1/4W MF	586055-307
R90	5.6k ohm 5% 5W WW	586054-58
R91	0.05 ohm 1% 5W Non inductive	1068259-1
R93	15 ohm 5% 5W	586054-27
R95	1.82 ohm 1% 1/4W MF	586055-299
R100	11.5k ohm 1% 1/4W MF	586055-125
R107-R110	36.5 ohm 1% 1/4W MF	586055-5
R107A-R110A	68.1 ohm 1% 1/4W MF	586055-18
-	Differential heatsink for 8-300V models	HS-1000-A2
	Transformer/Inductor Assembly	1068222-1

Model DCS 150-7 (Con't)

Circuit Designation	Description	Sorensen Part number
Rectifier PCB parts		
-	Rectifier/snubber PCB Rev B	PC-103R
-	Insul for rectifier	1066956-70
C301-305	220pF 3kV Z5F 10% 6.5mm Ceramic disk capacitor	1068459-1
C306	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disc capacitor	CC-503J-69
CR301-304	1000V 30A UFR	1068406-1
R301-304	300 ohm 5% 2W MF	42R0301-000
R305A,306,306A	330 ohm 5% 3W MF (Each pair mounted in series)	1068259-12
R305	470 ohm 5W	1068259-7
Output connector parts		
-	Output connector (Chassis mounted part) Universal Mate N Lock	MI-4875-UM
-	Output connector pin For chassis mounted part	MC-3547-ML
-	Output connector (Supplied to customer) Universal Mate N Lock	MI-4874-UM
-	Output connector socket pin (Supplied to customer)	MC-3350-ML

Model DCS 300-3.5 Differential Parts

Circuit Designation	Description	Sorensen Part number
A2 Power Assembly		
C27	.010uF 100V X7R 10% 5mm Ceramic capacitor	CB-103F-16
C45	220pF 1kV Z5F 10% 6.5mm Ceramic capacitor	CB-221G-66
C48,49,50, 50A,87	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
C48A,C49A	10nF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-103J-67
C50B	0.1uF 250V 10% 15mm Metal film capacitor	CD-104L-36
C52,53	220uF 350V 30 x 35mm Snap in electrolytic capacitor	CE-221J-83
C54	.0047uF 50V X7R 10% 5mm Ceramic capacitor	CB-472F-06
C55	.0022uF 50V X7R 10% 5mm Ceramic capacitor	CB-222F-06
C64	.001UF 50V X7R 10% 5mm Ceramic capacitor	CB-102F-06
C64A	0.1uF 50V Z5U -20%/+80% 5mm Ceramic capacitor	CC-104F-09
CR49,50,51,52	1N4148 Diode	CR-4148
Q17	IRF840	1066876-1
R22	13.7k ohm 1% 1/4W MF	586055-295
R27	470 ohm 1% 1/4W MF	586055-245
R68	16.2k ohm 1% 1/4W MF	586055-132
R70	100k 1% 1/4W MF	586055-170
R71,73	4.02k ohm 1% 1/4W MF	586055-103
R72	2k ohm 1% 1/4W MF	586055-89
R85	976k ohm 1% 1/2W MF	1063040-265
R86	EMPTY POSITION	
R89	787k ohm 1% 1/4W MF	586055-317
R90	22k ohm 5% 5W WW	586054-65
R91	0.2 ohm 1% 5W Low inductance	1068259-2
R93	33 ohm 5% 5W	589054-31
R95	1.82 ohm 1% 1/4W MF	586055-299
R100	11.5k ohm 1% 1/4W MF	586055-125
R107-R110	36.5 ohm 1% 1/4W MF	586055-5
R107A-R110A	68.1 ohm 1% 1/4W MF	586055-18
-	Differential heatsink for 8-300V models	HS-1000-A2
	Transformer/Inductor Assembly	TL-1300-FWB

Model DCS 300-3.5 (Con't)

Circuit Designation	Description	Sorensen Part number
Rectifier PCB parts		
-	Rectifier/snubber PCB PC 103R	PC-103R
-	9 mil Insul for rect.	1066956-70
C301-305	220pF 3kV Z5F 10% 6.5mm Ceramic capacitor	1068459-1
C306	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic disk capacitor	CC-503J-69
CR301-304	1000V 30A UFR TO-218	1068406-1
R301-304	300 ohm 5% 2W WW Low inductance	42R0301-000
R305	470 ohm 5% 5W WW Low inductance	1068259-7
-	Stiffner plate for CR301-304 mounting	SM-103R
-	Nomex insulator for CR301-304 mounting	SP-103R-IN
Output connector parts		
-	Output connector (Chassis mounted part) Universal Mate N Lock	MI-4875-UM
-	Output connector pin For chassis mounted part	MC-3547-ML
-	Output connector (Supplied to customer) Universal Mate N Lock	MI-4874-UM
-	Output connector socket pin (Supplied to customer)	MC-3550-ML

Model DCS 600-1.7 Differential Parts

Circuit Designation	Description	Sorensen Part number
A1 Power Assembly		
C27	.010uF 100V X7R 10% 5mm Ceramic capacitor	CB-103F16
C48,50,50A,82,87	0.05uF 1kV Z5U -20%/+80% 10mm Ceramic capacitor	CC-503J-69
C48A,49	.010uF 1kV Z5U -20%/+80% 10mm Ceramic capacitor	CC-103J-69
C50B,50C	.010uF 250Vac 10% 15mm Metal film capacitor	CD-103L-36
C51,52,53	1.5uF 630V 10% Axial 32mm Metal film capacitor	CD-155A-B6
C54	.047uF 50V X7R 10% 5mm Ceramic capacitor	CB-473F-06
C55	.0068UF 50V X7R 10% 5mm Ceramic capacitor	CB-682F-06
C60, 64	470PF 100V X7R 10% 5mm Ceramic capacitor	CB-471F-16
C64A	0.1uF 50V Z5U -20%/+80% 5mm Ceramic capacitor	CC-104F-09
C45, 81,83,84,85,86	100pF 3kV Z5U -20%/+80% 6.5mm Ceramic capacitor	CC-101G-99
CR45,46,47,48	2A 1.8kV UFR Axial leads	CR-2180-UF
CR49,50,51,52	1N4148 Diode .2A 75V	CR-4148
Q17	4N85	1066782-1
R22	6.34k ohm 1% 1/4W MF	586055-113
R27	475 ohm 1% 1/4W MF	586055-245
R68	16.2k ohm 1% 1/4W MF	586055-132
R70,72	2.05k ohm 1% 1/4W MF	586055-89
R71,73	8.66k ohm 1% 1/4W MF	586055-119
R85	976k ohm 1% 1/2W MF	1063040-265
R86	EMPTY POSITION	-
R89	1.62M ohm 5% 1/2W CF	1063040-263
R90	91k ohm 5% 5W WW	586054-79
R91	0.2 ohm 1% 5W Non inductive	1068259-2
R93	56 ohm 5% 5W WW	586054-34
R95	1.8 ohm 1% 1/4W MF	586055-299
R100	11.5k ohm 1% 1/4W MF	586055-125
R107-R110	36.5 ohm 1% 1/4W MF	586055-5
R107A-R110A	68.1 ohm 1% 1/4W MF	586055-18
R121,121A	470 ohm 5% 5W Low inductance	1068259-7
R125,126,127,128	1k ohm 5% 5W Low inductance	1068259-8
-	Rectifier Heatsink/Bus	SM-10HV-CR
	Transformer/Inductor Assembly	TL-1600

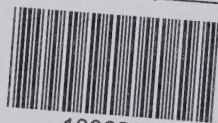
Model DCS 600-1.7 (Con't)

Circuit Designation	Description	Sorensen Part number
Output connector parts		
-	Output connector (Chassis mounted part) Universal Mate N Lock	MI-4875-UM
-	Output connector pin For chassis mounted part	MC-3547-ML
-	Output connector (Supplied to customer) Universal Mate N Lock	MI-4874-UM
-	Output connector socket pin (Supplied to customer)	MC-3550-ML

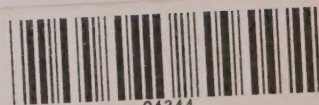
5.5 CHASSIS AND COVER ASSEMBLY REPLACEMENT PARTS

Circuit Designation	Description	Sorensen Part number
B1	Cooling fan (radial) 115Vac 50/60Hz 22CFM 1.6" high x 4.75" square	BR-0115-22
-	Vinyl bumper (adhesive backed) for mounting cooling fan	MF-RB12-06
-	Chassis	SM-10BS
-	Nomex chassis insulator	IN-10BS-05
-	Cover	SM-10CR
-	Nomex cover insulator	IN-10CR-05
-	25 Pin male DSUB connector Mates to connector J3	1066315-2

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